

Date: April 17, 1991
Subject: Comments re: baseline risk assessment for L.E. Carpenter site
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To: Jon Josephs

General Comments

The baseline risk assessment for the L.E. Carpenter site has undergone an extensive review by the New Jersey Dept. of Environmental Protection (NJDEP) (Feb. 7, 1991). In general, the comments recorded by the State are in concordance with the policies of the EPA. Where views differ, notation has been made. Also included are comments independent of the NJDEP review.

Specific Comments

Section 3 Exposure pathways do not include a temporal component. This omission will serve to overestimate risk, the extent being a function of the exposure duration in each particular pathway.

P 4-8 A 10% dermal absorption factor is employed for metals. EPA guidelines suggest 1-3% as a default value.

Table 5-19 Toxicity values for lead are currently undergoing EPA review. At present, EPA is advising against employing reference doses for quantitative risk assessment, electing instead to set interim clean-up goals. They are, for soil: 500 - 1,000 ppm; for drinking water: 15 ppb

Table 6-3 Assumes a hexavalent to trivalent chromium ratio of 1:9. A 1:7 ratio is more consistent with EPA guidelines.

The NJDEP risk assessment review (general comments #8, Page 3) critiques the derivation of dermal slope factors. Their recommendation to incorporate dermal intakes with oral may be at odds with EPA guidelines. Appendix A of RAG's provides guidelines for adjusting slope factors between exposure routes.

There is a discrepancy with the language used in this report. The maximum cancer risk tables in section 5 correspond to the 95

th percentile, rather than the risk associated with the maximum concentration. The tables should be labeled to reflect the **REASONABLE** maximum exposure.

BEP ORAL SLOPE FACTOR 1.4×10^{-2}

TABLE 5-2 lists THE MAX. CAN. RISK TO A WORKER
DERMALLY EXPOSED TO SOIL AS 5.11×10^{-3}

PLUGGING THE 95% UCL (1.13×10^4 TABLE B-10) INTO
THE DERMAL EXPOSURE FORMULA (TABLE 3-8)

$$\text{DOSE} (\text{mg/kg/day}) = \frac{1.13 \times 10^4 \text{ mg/kg} \cdot 3.12 \times 10^3 \text{ cm}^2/\text{day} \cdot 1.45 \times 10^{-6} \text{ kg/cm}^2}{7 \times 10^1} \cdot 2.5$$

$$CDI = 1.8 \times 10^{-1}$$

THE ADJUSTMENT OF AN ADMINISTERED TO AN
ABSORBED SLOPE FACTOR IS GIVEN ON PAGE 4-9
(C.I. ABS OF .5)

$$1.4 \times 10^{-2} = 2.8 \times 10^{-2}$$

.5

$$\text{CANCER RISK} = 2.8 \times 10^{-2} \times 1.8 \times 10^{-1}$$

$$= 5.1 \times 10^{-3}$$

BEDP RISK

FROM ING OF SOIL - (TABLE 3-6)

→ ORAL SLOPE FACTOR

$$1 \text{ E } -06 = \alpha \cdot 5 \text{ E } -05 \cdot 1.4 \text{ E } -02$$

7 E 01

$$100 \text{ mg/kg} = \alpha$$

FROM DERMAL EXP TO SOIL

→ ORAL SF
0.5

$$1 \text{ E } -06 = \alpha \cdot 3.12 \text{ E } 03 \times 1.45 \text{ E } -06 \cdot 0.25 \cdot 2.8 \text{ E } -02$$

7 E 01

$$2.25 \text{ mg/kg} = \alpha$$